ABSTRACT OF THE DISCLOSURE

The present invention relates to rRNA-derived cDNA used as an internal standard or control to achieve normalization of hybridization signal detection in microarray biochip technology. Analysis of data obtained from a laser scanner during DNA microarray experiments first requires image processing. However, the data generated for the arrayed genes must be normalized before differentially expressed genes can be identified. Normalization is necessary to compensate for differences in labelling and detection efficiencies for the labels and for differences in the quantity of starting RNA from the samples examined in the assay. Because of its relatively invariant expression across tissues and treatments, 18S and 28S ribosomal RNAs are ideal internal controls for quantitative RNA analysis. A way to circumvent the technical difficulties of using ribosomal RNA as a control, because of its overabundance relative to that of other RNAs, is described and claimed in the present application. Improved methods, arrays, and kits comprising arrays and free unlabelled ribosomal probes, are objects of this invention. The unlabelled ribosomal probes are used to compete out the excess or ribosomal nucleics present in a sample wherein all cDNA species of the sample are labelled before being placed in contact with the arrays.